

### REMARKS

The present application is directed to hemocompatible surfaces. In particular, the present invention is directed to hemocompatible surfaces having constituents of the outer layer of cells applied and/or incorporated thereon. By this Amendment, Claims 15-20, 22 and 23 are amended and Claims 1-14, and 24-29 are canceled. Accordingly, Claims 15-23 will be pending following entry of this amendment. No new matter is introduced by the amendments and support for the amendments is found throughout the specification. Applicants respectfully request reconsideration of the present claims in view of the amendments and following remarks.

In the beginning of the August 19, 2003 office action, the Examiner generally discussed the use of the word "comprising" by the Applicant and subsequent claim interpretation in light of the cited reference. In an effort to facilitate prosecution, Applicants have herein amended relevant claims and replaced "comprising" with "consisting of".

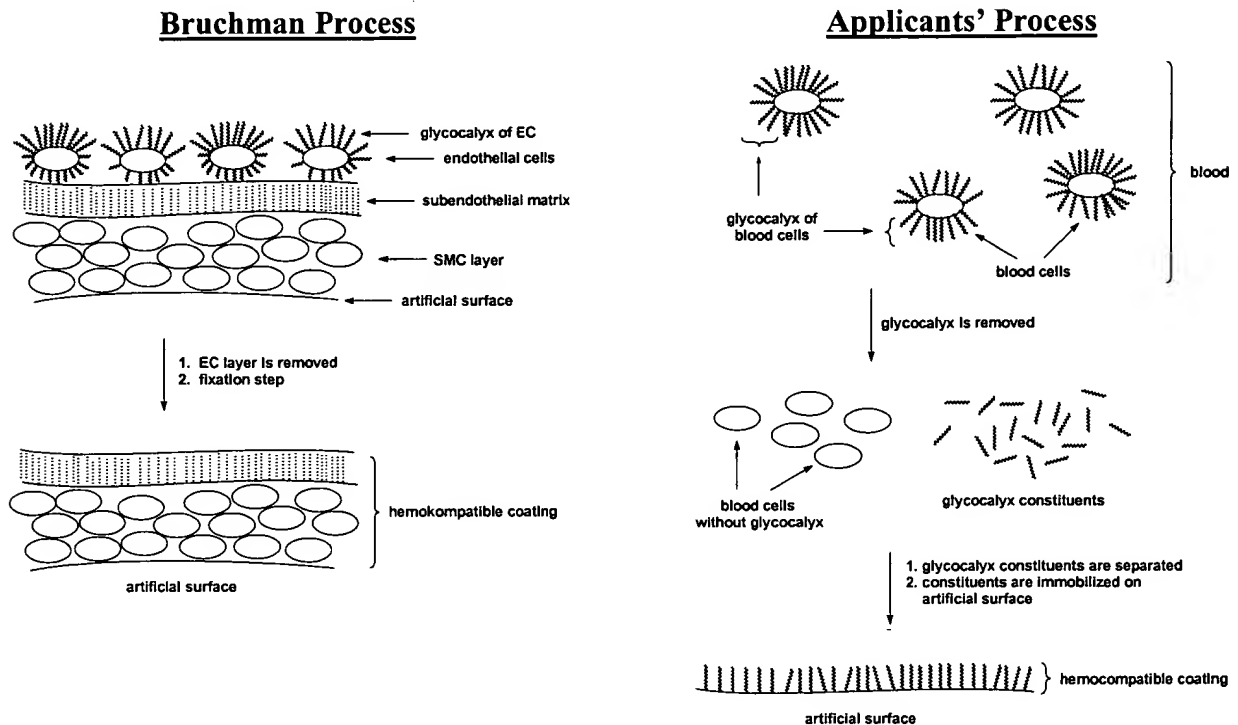
The Examiner further noted that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. In particular, the Examiner referenced certain features relied upon by Applicant (different constituents, no subendothelial matrix layer, a first layer of cells, the entire mixture of all polysaccharide constituents) that were not specifically recited in the rejected claims. Applicants appreciate Examiner's guidance in this regard and have made appropriate claim amendments. If further amendments are necessary, Applicants welcome suggestions from the Examiner.

#### *Rejection of Claims 15-16, 19, 21, and 23 under 35 U.S.C. § 102(b) over Bruchman*

In the August 19, 2003 Office Action, Claims 15-17, 19, 21 and 23 remained rejected under 35 U.S.C. § 102(b) as being anticipated by Bruchman (WO 95/29712), as follows.

According to the Examiner, Bruchman discloses a hemocompatible non-thrombogenic surface comprising a synthetic base material, a subendothelial matrix analogous to native vascular surfaces and constituents of the outer surface of a mesothelial cells. As previously discussed, Bruchman teaches a very specific type of hemocompatible surface. The *Bruchman Process* is limited to the teaching of a surface rendered hemocompatible by virtue of a subendothelial matrix (see *Bruchman Process* schematic below). In contrast, the surface of the present invention is rendered hemocompatible by virtue of glycocalyx constituents uniquely

and directly attached to an artificial surface (see *Applicants' Process* schematic below). Accordingly, the hemocompatible surfaces of Bruchman and the present invention differ not only the process for imparting hemocompatibility, but most significantly in the final composition of the surface.



In an effort to facilitate prosecution, Applicants have herein amended Claims 15, 16, 19, and 23. Accordingly, the claims are now directed to hemocompatible surfaces *consisting of* constituents that are not disclosed by Bruchman, and do not *comprise* a synthetic base material, or a subendothelial matrix analogous to native vascular surfaces.

Reconsideration and withdrawal of the rejection of Claims 15-17, 19, 21 and 23 based on 35 U.S.C. § 102(b) in light of Bruchman is therefore respectfully requested.

*Rejection of Claims 15, and 17 under 35 U.S.C. § 102(b) over Suzuki*

In the August 19, 2003 Office Action, Claims 15, and 17 under 35 U.S.C. § 102(b) were rejected over Suzuki (EP 0239644). According to the Examiner, Suzuki discloses isolating human thrombomodulin from lungs and can be fixed to materials to prevent thrombosis; thrombomodulin, a glycoprotein is present in mesothelial and endothelial cells of the lung. Applicants respectfully traverse.

Applicants have herein amended Claim 15 excluding thrombomodulin as a component of the hemocompatible surface. Accordingly, reconsideration and withdrawal of the rejection of Claims 15 and 17 based on 35 U.S.C. § 102(b) in light of Suzuki is therefore respectfully requested.

*Rejection of Claims 15, 18, 20, 22, and 29 under 35 U.S.C. § 102(b) over Hui et al.*

In the August 19, 2003 Office Action, Claims 15, and 17 under 35 U.S.C. § 102(b) were rejected over Hui et al. According to the Examiner, "Hui et al. disclose a hemocompatible surface comprising a metal base material and a combination of constituents of the outer surface of erythrocytes. These erythrocytes include glycophorins."

Applicants respectfully submit that whereas Hui et al. disclose the use of erythrocytes including glycophorins on hemocompatible surfaces, they *only* disclose this in the context of glycophorins being *part of an immobilized biological membrane*. The present invention does not involve the use of an immobilized biological membrane, or any form of a membrane. In contrast the present invention uniquely consists of elements derived from components such as blood cells that impart a hemocompatible quality to the resulting surface. The present invention does not involve intact biological membranes that are delicately extracted and then delicately preserved as they are applied to surfaces for very temporary hemocompatibility. In an effort to clarify this distinction, Applicants have herein amended Claim 15 specifically excluding whole, intact cells as a component of the hemocompatible surface. Claim 29 has been canceled. Hui et al. therefore fail to anticipate the invention as currently claimed.

Reconsideration and withdrawal of the rejection of Claims 15, 18, 20, and 22 based on 35 U.S.C. § 102(b) in light of Hui et al. is therefore respectfully requested. The rejection of Claim 29 is moot because Claim 29 has now been canceled.

*Rejection of Claims 24-28 under 35 U.S.C. § 103(a)*

In the August 19, 2003 Office Action, Claims 24-28 were rejected under 35 U.S.C. § 103(a) as being obvious in view of the combination of Keller et al. (U.S. Patent No. 5,071,973) and Bruchman (WO 95/29712). By the cancellation of Claims 24-28 herein, this rejection has been rendered moot.

*Double Patenting*

In the August 19, 2003 Office Action, Claims 29 was found to be a substantial duplicate of Claim 20. By the cancellation of Claim 29 herein, this rejection has been rendered moot.


**Conclusion**

Applicants believe the remarks herein place the claims in condition for allowance. Accordingly, such action is respectfully requested.

No additional fees are believed due, however, the Commissioner is hereby authorized to charge any deficiencies which may be required, or credit any overpayment, to Deposit Account Number 11-0855.

Early and favorable consideration is respectfully solicited. If the Examiner believes any informalities remain in the application that can be resolved by telephone interview, a telephone call to the undersigned attorney is earnestly solicited.

Respectfully submitted,

  
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